FAST-NEUTRON-SPECTRUM MEASUREMENTS FOR THE THICK-TARGET $^{9}Be(d,n)^{10}B$ REACTION AT E_d = 7 MeV*

by

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ABSTRACT

Spectra of neutrons with energies >800 keV which are emitted from a metallic beryllium target that is thick enough to completely stop 7-MeV incident deuterons are measured using organic scintillators and the pulse-beam time-of-flight method. Data are acquired for twenty different emission angles in the laboratory over the range 0-155 deg. The resulting information on the energy/angle detail of neutron emission is then employed in calculations which are performed in order to examine certain effects of the anisotropic neutron production on typical measurements of integral fast-neutron reaction cross sections.

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